

REMARKS

Claims 1-20 are currently pending in the above-identified patent application. Claims 1 and 11 have been amended and claims 9 and 10, and 19 and 20 have been canceled.

In the subject Office Action, the Examiner rejected claims 1-10 under 35 U.S.C. 112, second paragraph, a being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The Examiner continued by stating that claim 1 recites that said second axis of insertion being substantially parallel to said second axis of insertion, which is inherent and physically required, and that this language makes the claim ambiguous and indefinite.

Applicants have amended claims 1 and 11, and the Specification on pages 3 and 4 to correct obvious typographical errors therein. Clearly, from the figures, as originally filed, the language presented in the subject claims and on line 3 of page 3 through line 2 of page 4, and on lines 5-10 of page 8 of the Specification, as originally filed, the present apparatus should have the same structure associated with the second guiding mechanism as that for the first guiding mechanism. No new matter has been added by these changes.

The Examiner continued by rejecting claims 1-4, 6-10, and 11-20 under 35 U.S.C. 103(a) as being obvious over Carteau et al. (U.S. Patent No. 5,506,750), since regarding claim 1, the Examiner asserted that the reference discloses a storage system SP with multiple disk drives comprising an enclosure, an interface board FP having a first backplane interface connector CX₁ and a second backplane interface connector CX₂, said interface board being mounted in said enclosure, said interface board being substantially planar and defining an interface board plane (which extends vertically), a first CDA₁ and second CDA₂ backplane each having a plurality of disk drive interface connectors C₁₀₁-C₁₁₀ and a backplane interface mating connector (CAR₁, CAR₂ respectively) capable of mating with one of said first and second backplane interface connectors, said plurality of disk drive interface connectors being arranged in a plurality of rows and a plurality of columns, said first and second backplane being substantially planar and defining a first and second

backplane plane (each of which extends horizontally), a first set of disk drives 101-110 electrically connected to said first backplane through said plurality of disk drive interface connectors, each of said first set of disk drives having a longest edge defining a long axis, said long axis being oriented parallel to said first backplane plane, a second set of disk drives (another set 101-110) electrically connected to said second backplane through said plurality of disk drive interface connectors, each of said second set of disk drives having a longest edge defining a long axis, said long axis being oriented parallel to said second backplane plane, a first guiding mechanism G_1 mounted in said enclosure, said first guiding mechanism defining a first axis of insertion, said axis of insertion being substantially perpendicular to said interface board plane, said first guiding mechanism being arranged to guide said first backplane into said enclosure such that said first backplane electrically connects to said first backplane interface connector such that said first backplane plane is substantially perpendicular to said interface plane, said first backplane and said first set of disk drives being removable from said enclosure as a first single unit and a second guiding mechanism G_2 mounted in said enclosure, said second guiding mechanism defining a second axis of insertion, said second axis of insertion being substantially parallel to said first axis of insertion, said second guiding mechanism being arranged to guide said second backplane into said enclosure such that said second backplane electrically connects, to said second backplane interface connector such that said second backplane plane is substantially perpendicular to said interface plane, said second backplane and said second set of disk drives being removable from said enclosure as a second single unit.

The Examiner then stated that the reference does not teach a first and second set of disk drives wherein each of the disk drives has a longest edge defining a long axis, said long axis being oriented perpendicular to said first and second backplane plane respectively. Instead, the Examiner continued, the long axis is parallel to the backplane, and concluded that it would have been obvious that the disk drives may be positioned such that the long axis is perpendicular to the backplane to provide better cooling to the storage system.

The Examiner asserted that regarding claim 2, the system further comprises a first frame P_1 into which is mounted said first backplane and said first set of disk drives and a second frame P_2 into which is mounted said second backplane and said second set of disk drives; regarding claim 3, the first backplane is substantially a mirror image of said second backplane; regarding claim 4, the first backplane and said second backplane are identical and interchangeable; regarding claim 6, the interface board comprises a RAID controller; regarding claim 7, the first set of disk drives is a RAID mirror of said second set of disk drives; regarding claim 8, one of said first backplane and second backplane may be removed from said enclosure while said storage system is operable; regarding claims 9-10, the storage system further comprises a first power supply AL_1 and a second power supply AL_2 .

The Examiner then stated, regarding method claims 11-20, one would necessarily perform the cited method steps in constructing the storage system rejected above.

Applicants respectfully disagree with the Examiner regarding the rejection of claims 1-4, 6-10, and 11-20 under 35 U.S.C. 103(a) as being obvious over Carteau et al. (U.S. Patent No. 5,506, 750) for the reasons to be set forth hereinbelow.

Applicants wish to respectfully point out that there is no mention in the subject Office Action concerning the reasons for objection to or rejection of present claim 5. Additionally, the Examiner has used the word "anticipated" in a rejection under 35 U.S.C. 103(a). In order to move the prosecution of the present patent application along, applicants have assumed that claim 5 has been rejected in view of Carteau for the similar reasons to those applied to the other claims, and that "anticipated" should be read as meaning "obvious."

Turning now to Carteau, it may be observed from Fig. 1 and Fig.4, and from lines 10-27 of Col. 2 of Carteau that electrical power to plates P_1 to P_6 of Fig. 4 derives from two identical power supplies, AL_1 and AL_2 , such that if one of the two power supplies fails, the other replaces it.

Claims 1 and 11, as amended, recite that a first power supply is connected to the first backplane, while a second power supply is connected to the second backplane. This is in contrast with the teachings of Carteau where one power

supply is simultaneously connected to all of the plates bearing disk memories, that power supply being backed up by a second power supply or a battery in the event that the first power supply fails. The electronics required to sense a power failure and switch to backup power represents a single point of failure for the Carteau invention. The present invention, by contrast, permits one power supply to fail while the second power supply continues to power the backplane to which it is connected in an uninterrupted manner.

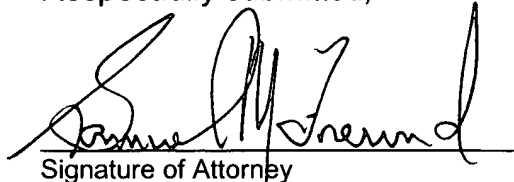
Support for the amendments to subject claims 1 and 11 relating to the first and second power supplies derives from Fig. 2 and lines 27-28 of page 7 of the subject Specification, as originally filed, wherein it is stated that "The power supplies 220 and 222 may provide separate connectors that engage the backplanes 204 and 206." Therefore, no new matter has been added by these changes.

For these reasons, applicants believe that claims 1-8 and 11-18, as amended, are in condition for allowance, and such action by the Examiner at an early date being earnestly solicited. Reexamination and reconsideration are respectfully requested.

Date: June 24, 2004

Reg. No. 30,459
Phone: (970) 377-6363

Respectfully submitted,



Signature of Attorney

Samuel M. Freund
Cochran Freund & Young LLC
3555 Stanford Road, Suite 230
Fort Collins, Colorado 80525